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Alaska Region Wildlife and Fisheries Habitat Improvement

1987 Project Highlights



**Region 10
Wildlife and Fisheries
Habitat Improvement Highlights
1987**

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Wildlife/Fisheries Habitat Improvement

Ketchikan Area

WILDLIFE HABITAT IMPROVEMENT

Prescribed Burning

A total of 631 acres of broadcast burning was accomplished in the summer of 1987. The August burns were in the Steelhead and Naukati Creek drainages on the Thorne Bay District, and in the Neets Bay vicinity on the Ketchikan Ranger District. The units were burned via helitorch and hand ignition. The wildlife objectives for the project were to reduce the heavy slash accumulation and provide for increased deer use in clear-cut units.



Burning accumulation of slash in a clear-cut unit.

Pre-commercial Thinning and Slash Treatment

Implementation of the Second Growth Management Plan on the Ketchikan Area in 1987 consisted primarily of precommercial thinning and corridor slash treatments. The objectives are to improve access for deer, and increase both the availability and duration of forage over time. The areas selected for treatment were areas within deer winter range, had high present deer use, and are within or adjacent to areas of high human use. Six hundred and twenty eight acres of precommercial thinning corridor treatment with wildlife objectives was accomplished on the Thorne Bay Ranger District. The Ketchikan Ranger District thinned 175 acres and Thorne Bay thinned 300 acres.

Canopy gaps affecting 125 acres of wildlife habitat were cut in the Deer Creek area of the Thorne Bay District. This project was accomplished by the district fish and wildlife staff to determine feasibility and cost per acre.

Ketchikan Area

FISH HABITAT IMPROVEMENT

Marten River Barrier Modification

Marten River is one of the larger river systems within the Misty Fiords National Monument and is a moderate to good producer of chinook, coho, and pink salmon. A barrier to all species of salmon existed at river mile 7.5 with 36 acres of chinook and coho habitat upstream of the barrier. With the emphasis of the U.S./Canada Salmon Treaty on enhancement of chinook salmon, providing access over the Marten River barrier was identified as the best opportunity to increase chinook salmon production from the Ketchikan Area. Anticipated annual returns are estimated at 1200 chinook.

The project consisted of removing approximately 100 cubic yards of rock from the side of the waterfall, resulting in a doubling of the width of the falls during low stream flows. This re-alignment of the falls is to stimulate salmon to jump from the deepest area of the falls pool at the lowest height of the falls crest. Total height of the falls was reduced from 8 to 5 feet by removal of bedrock. Extensive surveys of the Marten River system in September revealed anadromous fish above the modified barrier. Success!

Thorne Bay Stream Habitat Improvement

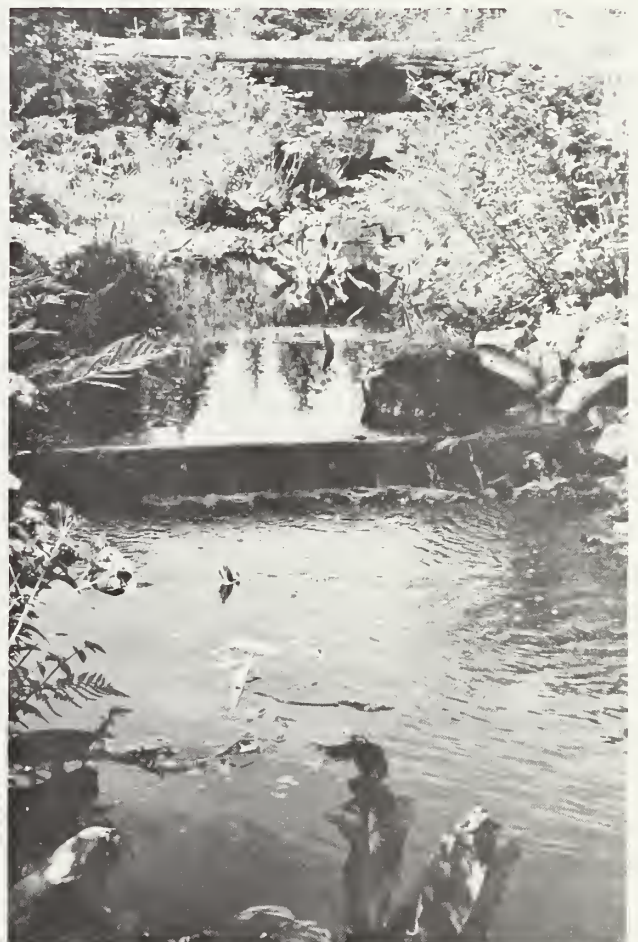
The Thorne Bay Ranger District has an active stream rehabilitation program. The 1987 program concentrated work in three impacted streams; Cottonwood Creek, Falls Creek, and Gravelly Creek. One hundred pieces of large woody debris and rock were placed this year. Habitat improvement in Falls Creek and Gravelly Creek was accomplished by falling large alder, spruce, and hemlock trees directly into the stream channel in appropriate locations. Logs were anchored in place with 3/8-inch wire rope attached to stumps or trees adjacent to the structures. Habitat improvement in Cottonwood Creek consisted of instream-structure placement and substrate manipulation to improve spawning and rearing habitat.

Rock and log weirs were placed in appropriate locations along the stream. Large sections of the stream were cleared of rubble and cobble to create high-quality spawning habitat. Structures are being evaluated to determine their effectiveness in rehabilitation of degraded fish habitat. The suitability of structures placed in different channel types is also being evaluated.

Tongass National Forest



Before (left) and after (right) photos of the Thorne Bay habitat enhancement program on Cottonwood Creek.



Chatham Area

WILDLIFE HABITAT IMPROVEMENT

Deer Corridors

Five wildlife access corridors were laid out and constructed within a 65 acre second growth area near Kidney Cove in Redoubt Bay. Six corridors were built near Sitkoh Lake and six near False Island; all sites are currently being monitored to determine use of these corridors by deer.

FISHERIES HABITAT IMPROVEMENT

Starrigavin Creek

A trail was built this summer along Starrigavin Creek to allow the viewing of habitat improvement structures. Five instream habitat structures were constructed in the creek in 1986. The structures will increase rearing habitat, especially over-winter rearing habitat for coho salmon fry. The treated area was mapped again this summer for habitat types to determine changes which have occurred since the construction of the structures. Monitoring of these structures will continue.

Pavlof River Fishway

An additional 10 acres of rearing and 2.9 acres of spawning habitat were made accessible to pink, chum, and coho salmon with the Pavlof River fishway. A thirty foot aluminum Alaska Steeppass was installed providing access to a section of the Pavlof River that was previously inaccessible to salmon. According to Forest Service production guidelines, this area can produce an additional 17,700 pink and 13,100 chum salmon annually. Improved access and reduction of falls related mortalities are expected to increase production of this unique early run of coho salmon by ten percent.

Slo-Flo Lake/Humpback Cr.

Coho rearing habitat was opened up on Slo-Flo Lake, about 12 miles northeast of Yakutat, by the Chatham Area volunteer fish enhancement crew. The crew blasted and hand excavated glacial moraines that were blocking upstream passage of coho fry and adults into the lake.

Chatham Area



Above: Fish habitat improvement structure in Starrigavin Creek

Below: Thirty feet of aluminum Alaska Steeppass installed in the Pavlof River



Tongass National Forest

Steep Creek

The Juneau Cub Scouts assisted Forest Service personnel in cleaning out a section of Steep Creek, near Mendenhall Glacier, that had been hit by a landslide. Spawning habitat for approximately 50 pairs of spawning salmon was restored by clearing out dead alder brush and building a sandbag water deflector to clean sediment from spawning gravel.



Juneau Cub Scouts and Forest Service personnel placing water deflectors in Steep Creek.

Rodman Creek

Five instream structures were placed in a B-1 tributary of Rodman Creek to improve coho habitat. Three culverts and one bridge that restricted waterflow to the creek were removed with explosives and an access channel was constructed to connect a pond with an off-channel streambed. Maps to assist in evaluating the structures influence on the stream were also prepared.

Stikine Area

WILDLIFE HABITAT IMPROVEMENT

Etolin Planting

Road edges and second growth areas were planted with cottonwood and willow slips for the fifth year in a row. This year approximately 40 acres on Etolin Island were planted. Monitoring has revealed high survival rates for the plants, some of which (cottonwood) have grown as much as four feet in the summer. The purpose of this program is to improve wildlife habitat in muskegs.

Stikine Area

FISH HABITAT IMPROVEMENT

Irish Creek Fishway

Roughly 4000 adult coho salmon returned to and passed through the Irish Creek fishway. These returns are from a release of Crystal Lake Hatchery fry into the upper watershed in 1984 and 1985. The number of coho returning was encouraging in light of the generally depressed returns in Southeast Alaska in 1987. A new trash rack was installed at the upstream end of the Irish Creek fishway this year, partially eliminating a chronic problem of debris clogging during fall freshets.

Nesbitt Creek - Large Woody Debris

A section of Nesbitt Creek that was "over-cleaned" following logging in the 1960's was treated with woody debris. Eighteen logs were pulled into the stream to improve rearing habitat for juvenile coho. The logs were cabled to anchors set in the streambed. The newly created pools and cover should provide excellent rearing and overwintering habitat for coho.



Nesbitt Creek coho rearing habitat enhancement techniques.

Stikine Area

Port Camden Egg Incubation Boxes

Incubation boxes in two streams near the head of Port Camden produced 200,000 chum fry. The four boxes, each containing 50,000 eggs, had a 99 percent overwinter survival rate. Two additional boxes were added in the summer of 1987. This is a cooperative project by employees of NSRAA, ADF&G, and the Forest Service.

Future plans for the area include improving the natural spawning habitat through channelization and substrate replacement, expanding the number of egg boxes, increasing the number of eggs per box, and further developing the water supply for the boxes.



Cooperators collect and spawn chum salmon to fill the Port Camden egg incubation boxes.

Wildlife/Fisheries Habitat Improvement

Seward Ranger District

WILDLIFE HABITAT IMPROVEMENT

Prescribed Burning

From 1976 to 1987, 28 sites including 8,150 acres of moose winter range on the Chugach National Forest have been treated with prescribed fire. This is part of an ongoing project to increase the quantity and quality of hardwood browse available to moose on winter range where current browse production is low. Moose are being drawn into and use the burned sites heavily during winter, consuming 44 percent of available browse. Moose carrying capacity increases because of burning are estimated at 115 moose for 8,150 acres treated.



Prescribed burning increases the production of forage and provides increased access into clear-cut areas for wildlife.

Seward Ranger District

FISH HABITAT IMPROVEMENT

Six Mile Stocking

In June, 1983 a multi-year salmon fry stocking project was initiated in the Six Mile Creek system on Kenai Peninsula to develop an anadromous sport fishery. One of the limiting factors for salmon on the Six Mile is fry rearing habitat. In 1987, the Forest Service in cooperation with the ADF&G and Cook Inlet Aquaculture Association constructed rearing habitat structures to increase rearing habitat available to the stocked salmon. A test sport fishery was implemented in 1987 on the first returning king salmon to the Six Mile. Anglers were quite successful in catching these returning fish.

Small Lakes Improvement Program

Fresh water lakes on the Kenai Peninsula provide habitat for a variety of trout and other resident fish species. Some lakes have natural or stocked populations of fish while others are barren. The Forest Service has been working cooperatively with ADF&G enhancing and managing these lakes providing fisheries to meet the increasing recreational user demands on the Peninsula. Development of lake sport fisheries on the Kenai Peninsula follows a series of steps beginning with habitat assessment and usually ending with lake stocking. Associated projects include providing fisherman access, trail development, and installation of outlet control structures, such as the Summit Lake structure to prevent the egress of fish after stocking.

Cordova Ranger District

WILDLIFE HABITAT IMPROVEMENT

Nest Islands

The District administered a Ducks Unlimited contract to install 210 nest islands to provide secure nesting areas for Dusky Canada geese on the Copper River Delta. Forest Service crews installed an additional 40 nest islands.



Field crews use sod and vegetation to construct a nest platform



Each nest platform is monitored to evaluate use by waterfowl

Cordova Ranger District

FISH HABITAT IMPROVEMENT

Mile 25.25 Spawning Channel

A 1200 foot groundwater spawning channel was constructed to provide high quality spawning habitat for coho and sockeye salmon. The spawning channel should produce 1200 harvestable salmon worth approximately \$13,540 annually.



An example of a constructed groundwater channel capable of providing high quality habitat for spawning coho and sockeye salmon.

Mile 24.75 Rearing Access Channel

A 384 foot stream channel was excavated to connect a 2.2 acre pond with an adjacent salmon stream. The newly available habitat will produce 363 harvestable adult coho salmon with a value of approximately \$4,092 per year.

Brush Bundle Installation

Thirty brush bundles were installed in an existing gravel pit pond to improve the rearing habitat for juvenile coho salmon. This project was accomplished as part of the District's Youth Conservation Corps program.

Glacier Ranger District

FISH HABITAT IMPROVEMENT

Williwaw Spawning Channel and Rearing Ponds Project

Four and a half acres of coho and sockeye rearing ponds were created this year at Williwaw Creek. Excavated gravel was used to reconstruct a highway and banks were stabilized with willow and black cottonwood plantings. The nine acres that were planted will also provide browse for moose and reduce visual impacts.



Forest Service personnel review design of the coho and sockeye rearing pond shown in the background.

Glacier Ranger District

FISH HABITAT IMPROVEMENT

Williwaw Viewing Platform/Bank Stabilization

The Williwaw Creek Salmon Viewing Platform is popular location for forest visitors to view spawning sockeye salmon in their natural environment. The District provides interpretive signs and programs here to describe the salmon life history. The foot traffic along the stream bank has resulted in the removal of bank vegetation and sedimentation to the spawning gravels.

The District constructed a wood fence during 1987 to limit access to the stream banks. The stream banks were planted with grass and shrubs to establish cover and reduce the sediment input to the spawning gravels.

Portage Valley Trickle Dam and Trout Stocking

The Glacier Ranger District implemented a rainbow trout sport fishing project in Portage Valley in 1987. The objective of the project was to provide a road accessible fishing opportunity for visitors to Portage Valley from Memorial Day through Labor Day. A 30 foot long channel was constructed to connect a 13 acre pond to a tributary of Placer River. A trickle dam structure was designed for this channel to contain rainbow trout in the stocked pond.

Monitoring/Bio-enhancement

WILDLIFE

Elk Transplants

Fifty elk were transplanted to Etolin Island by ADF&G in an effort to establish a huntable elk herd in Southeast Alaska. The Forest Service contributed funds and personnel to match the effort by ADF&G and Alaska Sports and Wildlife Club. Three shipments of elk were released between January 19 and March 15, including 33 Roosevelt elk from western Oregon, and 19 Rocky Mountain elk from eastern Oregon.

Initial mortality of the elk has been high. Wolf and bear predation, falls, and intestinal problems resulting from the move have claimed 40 percent of the elk from western Oregon, and 69 percent from eastern Oregon. These figures are from radio-collared elk, and it is assumed that an equal proportion of uncollared elk have died. Most of the elk died very soon after being released. Intensive monitoring to determine overwinter survival and reproduction is scheduled for late June 88.



Radio collar being placed on elk to assist in movement and mortality studies.

Alaska Region

Wildlife

Brown Bear Study

Brown bear numbers on the Kenai Peninsula are estimated to be low (150-250). In 1984, a tri-agency brown bear study was formed between the Forest Service, ADF&G, and U.S. Fish and Wildlife Service. A study was initiated to determine extent of distribution, and identify potential problems and management considerations. Field studies are complete and the team is now writing a brown bear management handbook.

Forestry Science Laboratory Moose Study

The district provided support and coordination for an FSL research program studying moose habitat relationships on the Copper River Delta. Thrity-six moose were radio-collared and are currently being tracked.



One of 36 moose radio-collared as part of the monitoring process

Monitoring/Bio-enhancement

FISHERIES

Marx Creek Spawning Channel

This was the third year of chum stock development and project evaluation on Marx Creek. To accelerate the chum production in the spawning channel, the Misty Fiords National Monument has been involved in a cooperative project with the Alaska Department of Fish and Game, FRED Division-Ketchikan. The objective of the stocking is to augment natural escapement and accelerate production capacity of the channel to achieve optimum capacity, approximately 6000 spawning pairs by 1991.

The project evaluation consists of fry enumeration and coded wire tagging. In conjunction with intensive escapement counts and returns of tags from commercially harvested fish, this evaluation will assist in evaluating the success of meeting production goals. This program was accomplished by Ketchikan ADF&G FRED Division personnel through the use of U.S. Canada treaty money.



Adult chum salmon being transplanted into Marx Creek

Tunga Inlet Project

Tunga Inlet is a small watershed in the Ketchikan Area that drains four acres of stream and 125 acres of lake into Salt Water Lagoon. In 1986 a fishway was constructed to provide upstream access previously prevented by a 9 foot barrier falls. In 1987 work continued with the removal of a large log from the creek. The system was monitored for parr overwintering and smolt out-migration. The district staff assisted ADF&G in coded wire tagging 20,000 coho fry and transporting and stocking an additional 200,000 coho pre-smolt into Tunga Inlet Lake.

Alaska Region

Fisheries

McDonald Lake Fertilization

The Ketchikan Area has cooperated with ADF&G FRED Division in the McDonald Lake fertilization project since it began in 1982. Prior to this time, overfishing of the McDonald sockeye runs caused a large reduction in the numbers of returning spawners which reduced nutrient sources in the lake. Consequently, the ability of the habitat to produce at historical levels is believed to be diminished. The addition of inorganic fertilizer to McDonald Lake on the Ketchikan Ranger District has the potential to re-establish both the nutrient supply and the ability of the habitat to support increased numbers of sockeye salmon. The program appears to be working. McDonald Lake is now producing large numbers of sockeye. The largest runs of sockeye in southern Southeast Alaska are in this lake system. Estimates from existing data indicate a 10 percent increase in smolt biomass. Both smolt size and survival from fry to smolt have increased. Escapements from the past have averaged 48,000 fish with a value of over \$300,000. Escapement to McDonald Lake was 180,000 sockeye in 1986 and was over 200,000 in the fall of 1987.

Beaver Lake

Approximately 3000 arctic grayling were stocked in Beaver Lake last summer as part of a cooperative project with ADF&G Sport Fish Division. These fish were less than an inch in length when stocked, but have grown into a significant sport fishery in Sitka. Biologists have found fish up to 12 inches in the lake, and many anglers have reported catches of fish to nine inches.



King salmon smolt

Fisheries

Indian River

Another cooperative project with ADF&G is the planting of king salmon fry into Indian River. Results indicate a high fry to smolt rate, as a large proportion of the fry stocked in 1986 smolted in 1987. Between 7,500 and 12,500 smolts were produced from a release of 50,000 king salmon fry. Judging from results to this point, it is estimated that Indian River could provide enough habitat to be planted with 250-500,000 fry in the future. ADF&G has agreed to supply king salmon fry for stocking in 1988.

Dredge and Indian Lakes

This was the fourth year of Forest Service and ADF&G cooperative coho fry stocking in Indian Lake, near the Snettisham hatchery, and the second year of stocking in Dredge Lake, in Juneau's Mendenhall Valley. This year 100,000 and 50,000 coho fry were stocked in Indian and Dredge Lakes respectively. Monitoring by ADF&G of the previous Dredge Lake stocking showed that 8 percent of the stocked cohos were caught in the commercial and sport fishery near the Juneau area.

Greens Pond Monitoring

Greens Pond, a converted borrow pit in Yakutat, was monitored for species utilization following one year of access by anadromous fish. A beach seine drawn across the pond turned up sockeye fry, sticklebacks, and coho fry, as expected. Fish in Greens Pond out migrate by way of the Situk River.

Slippery Creek

Efforts continued this year to introduce coho salmon above existing and planned fishways. Sixty thousand Crystal Lake Hatchery coho fry were stocked in the Slippery Creek system above a fishway scheduled for construction in 1988. Eggs were taken from wild coho in nearby streams. Participants included the Forest Service, ADF&G, and Northern Southeast Regional Aquaculture Association (NSRAA).

St. John's Creek/Dean Creek

Fifteen thousand coho fry were introduced to upper St. John's Creek above a fishway constructed in 1986. Southern Southeast Regional Aquaculture Association assisted in this effort. In addition to the release of fry from eggs incubated at the hatchery, 2000 wild coho fry were captured in minnow traps and seines in lower St. John's Creek and transported upstream for release above the fishway.

For the fourth year, wild coho fry were captured in Rowan, Saginaw, and Security Creeks and released above the fishway on Deans Creek. Approximately 5,000 fry were released in 1987.



